

43. A process according to claim 41 wherein the surface of the applicator roll adjacent the mat moves at a speed within a range of from about 90% to about 110% of the speed of the mat.

5 44. A process according to claim 21 wherein the second coating is applied with an applicator roll, and wherein the mat at least slightly wraps on the applicator roll to promote wetting and transfer of the second coating to the mat.

10 45. A process according to claim 44 wherein the mat wraps on the applicator roll over at least about 120 degrees of the applicator roll.

15 46. A process according to claim 40 wherein the applicator roll rotates in a direction so that the surface of the applicator roll adjacent the mat moves in the a direction which is reverse the direction of the mat, and wherein the surface of the applicator roll adjacent the mat moves at a speed within a range of from about 10% to about 100% of the speed of the mat.

20 47. A process according to claim 40 wherein the applicator roll rotates in a direction so that the surface of the applicator roll adjacent the mat moves in the a direction which is reverse the direction of the mat, and wherein the surface of the applicator roll adjacent the mat moves at a speed within a range of from about 20% to about 60% of the speed of the mat.

25 48. A process according to claim 40 wherein the applicator roll rotates in a direction so that the surface of the applicator roll adjacent the mat moves in the a direction which is reverse the direction of the mat, and wherein the surface of the applicator roll adjacent the mat moves at a speed within a range of from about 30% to about 50% of the speed of the mat.

49. A continuous process of applying first and second asphalt-based coatings to a mat for manufacturing a roofing material, the process comprising:

continuously moving a continuous mat along a path, the mat having a
5 bottom surface and a top surface;

in a first coating operation, continuously applying a first asphalt-based coating to the bottom surface of the mat in a manner so that the first coating saturates the mat and forms a layer on the bottom surface; and then

in a second coating operation, continuously applying a second asphalt-
10 based coating to the top surface of the mat in a manner so that the second coating forms a layer on the top surface, the second coating having different properties from the first coating;

wherein the first and second coating operations can be independently controlled in a dial-in mode in which control parameters are set once and do not
15 require adjustment throughout the continuous process.

50. A continuous process of applying first and second asphalt-based coatings to a mat for manufacturing a roofing material, the process comprising:

continuously moving a continuous mat along a path, the mat having a
20 bottom surface and a top surface;

inverting the mat before a first coating operation so that the bottom surface is oriented upward when applying a first asphalt-based coating to the bottom surface;

in the first coating operation, continuously applying the first coating to the
25 bottom surface of the mat in a manner so that the first coating saturates the mat and forms a layer on the bottom surface, wherein the first coating operation comprises moving the mat through a gap between an upper squeeze roll and a lower squeeze roll, and supplying the first coating to a location before the gap

and above the mat so that the first coating moves through the gap with the mat, the squeeze rolls forcing the first coating to enter and saturate the mat and to form the layer on the bottom surface; and then

5 in a second coating operation, continuously applying a second asphalt-based coating to the top surface of the mat in a manner so that the second coating forms a layer on the top surface, the second coating having different properties from the first coating, wherein the second coating is applied with an applicator roll, and including the step of scraping the second coating from the surface of the applicator roll and smoothly applying the scraped coating to the mat.

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51. A continuous process of applying first and second asphalt-based coatings to a mat for manufacturing a roofing material, the process comprising:
continuously moving a continuous mat along a path, the mat having a first surface and a second surface;

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in a first coating operation, continuously applying a first asphalt-based coating to the first surface of the mat in a manner so that the first coating saturates the mat and forms a layer on the first surface; and then

in a second coating operation, continuously applying a second asphalt-based coating to the second surface of the mat with an applicator roll in a manner
20 so that the second coating forms a layer on the second surface, and including the step of scraping the second coating from the surface of the applicator roll and smoothly applying the scraped coating to the mat.

52. A coating apparatus for applying first and second asphalt-based
25 coatings to a mat for manufacturing a roofing material, the apparatus comprising:
a pair of squeeze rolls for continuously applying a first asphalt-based coating to a first surface of the mat in a manner so that the first coating saturates the mat and forms a layer on the first surface;